Ancient Fauna and Early Man at Bethlehem

THE report on the bone-bearing beds of Bethlehem by Miss E. W. Gardner and Miss D. M. A. Bate, appearing in this issue of NATURE (see p. 431), summarizes the results of three years' excavation on a site situated in the highest part of Bethlehem on the highest point of the Judean arch, of which the importance for the physiography and palæontology of Palestine was established in 1934 by the discovery of the fossil remains of an elephant, the first evidence of the former existence of this extinct species in this geographical region.

Since that date, as Miss Bate shows, the Bethlehem bone beds have yielded evidence of an extinct fossil fauna, which is not only almost entirely new to Palestine, but is also of earlier geological age than any found there hitherto. Further, from the gravels of these deposits have come 'flints', which may prove to be the earliest trace of man in Palestine.

The character of the geological deposits in which the fossil fauna occurs, as is indicated in Miss Gardner's report, is such as to add considerably to the importance of the discovery. The bones were found in water-borne gravels deposited on a cemented scree, or breccia, weathered subaerially. The lie of the deposits is such that it is evident that they cannot have been laid down originally in the position in which they are now found. While Miss Gardner exercises a wise discretion in refraining from any premature conjecture as to their origin before excavation is complete, she goes so far as to suggest that the condition of the deposits may be due either to the collapse of the original floor or to the filling of a funnel-shaped hole. These conditions are of prime importance in pointing to movement and physiographic changes, indicating a considerable antiquity.

While the evidence of geology, pending further investigation, is thus reticent as to questions of origin and chronology, the aid of other branches of investigation—archæology and palæontology—is invoked to give evidence on the question of dating; and here is brought forward what to many certainly will seem the most startling evidence from this investigation. Miss G. Caton-Thompson, whose experience in dealing with early Stone Age forms in the East entitles her to speak with authority, has found in the vast multiform assemblage of cherts in the gravels, showing evidence of subjection to a variety of forces, a number of pieces which she holds it difficult to explain except as humanly fashioned tools. Drawing a pregnant comparison with Mr. Reid Moir's 'artefacts' from the Red Crag of Foxhall and the sub-Crag detritus bed flints of Bramhall, she regards many of the Bethlehem 'artefacts' as conforming closely "in shape and edge trimming to the classic type of Harrisonian eolith". She goes on to point out that this is the first time such evidence has been found in a sealed deposit in Palestine—evidence which "is less easy reasonably to explain as the accidental work of natural forces, than as the deliberate experimental work of man in remote pre-Chellean times".

The archæological evidence, thus possibly the earliest indication of man's appearance in Palestine, gains in significance when brought into relation with the interpretation of the palæontological data, as regards geographical distribution and dating.

The crucial point is the occurrence of the diminutive form of horse, *Hipparion*, previously known from various deposits in Asia of Tertiary age, but recently reported from the Pleistocene of India, and now well known from the Pleistocene deposits of East Africa. With it goes the evidence of other members of the Bethlehem fauna, also pointing to an affinity with Asiatic forms of like age. Miss Bate, therefore, in summing up, concludes by suggesting that the Bethlehem fauna in origin is Asiatic and that its age is not later than early Pleistocene, adding that it provides a faunistic link for this period between Asia and East Africa.

It need scarcely be said that if Miss Caton-Thompson's tentative acceptance of the specimens she has selected as artefacts is well grounded, this discovery at Bethlehem will prove of transcendent importance in the consideration of the problem of the distribution of early man. It would be premature to enlarge on this aspect before the specimens have received further expert consideration; but it may be pointed out that these excavations serve to reassert the growing importance of Palestine for the problems of early man, already demonstrated in Miss Garrod's excavations and the investigations of Sir Arthur Keith and Mr. T. McCown on the physical characters of the early forms of man from Mount Carmel.